**UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

SONRAI MEMORY LIMITED,	
Plaintiff,	Case No. 6:21-cv-00400-ADA
v.	
KIOXIA CORPORATION and KIOXIA AMERICA, INC.	
Defendants.	
SONRAI MEMORY LIMITED,	
Plaintiff,	Case No. 6:21-cv-00361-ADA
v.	
DELL TECHNOLOGIES, INC.	
Defendant.	
SONRAI MEMORY LIMITED,	
Plaintiff,	Case No. 6:21-cv-00401-ADA
v.	
APPLE INC., Defendant.	

SONRAI MEMORY LIMITED,
 	
    Plaintiff,
 	
v.
 	
GOOGLE LLC,
 	
    Defendant.
	Case No. 6:21-cv-00167-ADA

SONRAI MEMORY LIMITED,
 	
    Plaintiff,
 	
v.
 	
LG ELECTRONICS INC., LG ELECTRONICS U.S.A., INC.,
 	
    Defendants.
	Case No. 6:21-cv-00168-ADA

SONRAI MEMORY LIMITED,
 	
    Plaintiff,
 	
v.
 	
SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS AMERICA, INC.,
 	
    Defendants.
	Case No. 6:21-cv-00169-ADA

SONRAI MEMORY LIMITED,
 	
    Plaintiff,
 	
v.
 	
WESTERN DIGITAL TECHNOLOGIES, INC.,
 	
    Defendant.
	Case No. 6:21-cv-01168-ADA

**PLAINTIFF SONRAI MEMORY LIMITED'S
RESPONSIVE CLAIM CONSTRUCTION BRIEF**

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I.   INTRODUCTION

Plaintiff Sonrai and Defendants offer not just competing claim construction proposals, but very different approaches to claim construction. The Federal Circuit has set forth straightforward rules to guide claim construction. For example, where claim terms have a plain and ordinary meaning to a person of ordinary skill in the technical art, there is a heavy presumption that meaning applies. In each case, Sonrai's claim term proposals stay faithful to that plain meaning and narrow from that plain meaning only when necessary under controlling Federal Circuit law or when helpful to narrow the disputes for the fact-finder.

Defendants' proposals, on the other hand, ask the Courts to recharacterize and burden clear terms with artificial and extraneous baggage, but Defendants can point to any clear or unmistakable disclaimer or lexicography to support these proposals. This invites reversible error. *See, e.g.*, *JVW Enters. v. Interact Accessories, Inc.*, 424 F.3d 1324, 1335 (Fed. Cir. 2005). Indeed, many of Defendants' proposals are inconsistent with the patent specification and even with the claim language itself. These are improper under controlling law—and do nothing to help any fact-finder, but rather only make that job more difficult. These legally flawed and results-oriented proposals should be rejected. In addition, Defendants allege certain claim terms are indefinite, but provide no clear and convincing evidence to prove this is so.

Defendants attempts to invalidate or limit the claims should be rejected.

II.   AGREED-UPON CONSTRUCTIONS FOR ALL PATENTS

The parties have previously agreed on construction of the following terms:

Agreed-upon Term	Agreed-upon Construction
"coupled to each load" ('241 patent, claim 6)	"coupled to each corresponding load"
"each load selector means" ('241 patent, claim 7)	The "load selector means"
"multiple operating systems residing in a memory" '014 patent, claims 1 and 7	"multiple operating systems residing in the same memory"
"multiple processors are connected to said	"multiple processors are connected to

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Agreed-upon Term	Agreed-upon Construction
memory via a bus" '014 patent, claim 3	said memory via the same bus"

III.   DISPUTED TERMS FOR THE '241 PATENT

A.   "A charge pump circuit for generating a charge pump voltage having minimal voltage ripples" (preamble of claim 1)

Sonrai's Proposed Construction	Defendants' Proposed Construction
The preamble is limiting, but only with regard to "charge pump circuit" and not "for generating a charge pump voltage having minimal voltage ripples"	The preamble is limiting and should be given its plain and ordinary meaning.

Both parties agree that the preamble's recitation of "[a] charge pump circuit" is limiting because it provides antecedent basis for later claim limitations. Thus, the only dispute is whether "for generating a charge pump voltage having minimal voltage ripples" (the "'for generating' language") is limiting. Because the "for generating" language recites only an intended purpose of the invention, it is not limiting. *See TomTom, Inc. v. Adolph*, 790 F.3d 1315, 1323 (Fed. Cir. 2015) (holding that when a phrase in the preamble "provides a necessary structure for [the claim] does not necessarily convert the **entire**[1] preamble into a limitation, particularly one that only states the intended use of the invention").

Here, Defendants concede that the preamble language "for generating a charge pump voltage having minimal voltage ripples" (the "'for generating' language") operates to "explain[] the intended objective" of the invention." *See* Op. Br. at 4 (alleging that "[a] charge pump circuit" "structurally limits the invention to a charge pump circuit," whereas the "for generating" language "explain[s] the ***intended objective*** for the claimed plurality of loads"); *see also TomTom*, 790 F.3d at 1322-24 (explaining that the phrase "for generating and updating data" "employs the standard pattern of" "language stating a purpose of intended use"). Accordingly,

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[1] All emphases herein are added unless otherwise specified.

under the rationale of *TomTom*, the "for generating" language is not limiting. Defendants' other arguments likewise fail.

First, Defendants do not contend that the "for generating . . ." language supplies antecedent basis for any limitations in the body of the claim, and thus do not allege that the "for generating . . ." language is limiting on that basis.

Second, Defendants contend that the "for generating . . ." language "breathes life, meaning and vitality into the claimed invention." Op. Br. at 4. But the only case Defendants cite for that proposition is an instance where the asserted claims "would have little meaning without the intended objective [recited in the preamble]," a fact that Defendants have not even alleged is applicable to the disputed language here. *Vizio, Inc. v. Int'l Trade Comm'n*, 605 F.3d 1330, 1341 (Fed. Cir. 2010); *see* Op. Br. at 3-4 (no allegation that the claims lack meaning without the "for generating" language). The *Vizio* court's holding was also based on additional factors, including that a non-limiting preamble would be directly "contrary to the limited disclaimer appearing in the specification and prosecution history." *Id.*

Third, while Defendants in passing allege that the "for generating" language "recites *structure* that is essential or underscored as important by the specification" (*see* Op. Br. at 3), they provide no evidence or explanation as to how the "for generating" language provides any structure at all. *See generally* Op. Br. at 3-4. Rather, as Defendants concede, the "for generating" language at most "explain[s] the ***intended objective***" of the invention. *Id.* at 4.

Finally, Defendants' other cited cases serve only to highlight the substantial differences between the preamble of Claim 1 and preambles that courts have found to be limiting. For instance, in *Bio-Rad Labs.*, the preamble recited a "method for conducting a reaction in plugs in a microfluidic system," where "reaction" and "microfluidic system" provided antecedent basis

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for later claim limitations. *Bio-Rad Labs., Inc. v. 10X Genomics Inc.*, 967 F.3d 1353, 1370 (Fed.

Cir. 2020). Because the language providing antecedent basis was spread across the preamble, the

court found that "the preamble in this case cannot be neatly packaged into two separate portions."

Id. at 1371. In contrast, in Claim 1 of the '241 Patent, the first portion of the preamble recites

limiting structure, whereas the second portion of the preamble recites a non-limiting intended

use: "**[1]** A charge pump circuit **[2]** for generating a charge pump voltage having minimal

voltage ripples." Thus, unlike the preamble of *Bio-Rad Labs*., and like the preamble of *Tom-Tom*,

the preamble of Claim 1 ***can*** be neatly packaged into two separate portions.

Likewise, in *SIMO Holdings*, the preamble recited "[a] wireless communication client or

extension unit comprising a plurality of [structural elements]," and did not include any recitation

of being "for [a particular purpose]." *SIMO Holdings Inc. v. Hong Kong uCloudlink Network

Tech. Ltd.*, 983 F.3d 1367, 1375 (Fed. Cir. 2021). Accordingly, the *SIMO* court found the

preamble to include "the listed structural requirements," because a list of structural limitations is

distinguishable from the recitation of "an intended use or functional property." *Id.* at 1376. In

contrast, the "for generating" language at issue here is not structural, and instead sets forth an

intended ***objective*** or ***purpose*** of the invention. Op. Br. at 4 (acknowledging that the "for

generating" language "explain[s] the ***intended objective*** for the claimed plurality of loads").

B.   "load" (claim 1)

Sonrai's Proposed Construction	Defendants' Proposed Construction
Plain and ordinary meaning.	"a device that absorbs surplus charge to significantly reduce voltage ripple compared to a case without the device"

Defendants do not allege that their proposed construction is the plain and ordinary

meaning of "load." Op. Br. at 5 (alleging a "special meaning given to it by the patent"). Because

Defendants do not dispute that the plain and ordinary meaning of "load" is broader than their

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construction, that construction must be rejected absent lexicography or disavowal. *See Thorner v. Sony Computer Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) ("The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history. There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.") (internal citation omitted). The standards for lexicography and disavowal are "exacting." *Id.* at 1366. For lexicography, "the patentee must 'clearly express an intent' to redefine the term." Id. at 1365. And disavowal cannot redefine a term absent "a clear and unmistakable disclaimer." Id. at 1366-67.

Defendants do not allege disavowal (Op. Br. at 5-6), and cannot show lexicography. Defendants' lexicography arguments rely on the specification's use of the term "load" is used with surrounding additional adjectives and/or statements of intended purpose. *See generally* Op. Br. at 5 (citing portions of the specification that discuss "selectable loads to minimize the voltage ripples . . .," an "appropriate load for a preselected pump voltage," a "variable load," and "an appropriate load associated with a specific pump voltage to result in a minimum voltage ripple"). However, none of these examples even arguably define the word "load" itself.

Far from establishing lexicography, Defendants' examples prove that the word "load" carries its plain and ordinary meaning. For example, the fact that the specification discusses "selectable *loads to minimize the voltage ripples*" proves that the word "load" itself should ***not*** be understood to have the meaning of minimizing voltage ripples, because otherwise the phrase "loads to minimize the voltage ripples" would be redundant. Thus, lexicography does not apply.

Defendants also point to exemplary embodiments in the specification where a load may

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"significantly" reduce load capacitance. Op. Br. at 6. But Defendants do not allege that this is a requirement of all embodiments. *See id.* And even if they **could** prove such an allegation, it is nevertheless improper to limit claims based on the embodiments in the specification, absent a clear indication of intent that the claims should be so limited. *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004) (explaining that there is a "heavy presumption that [the claims] mean what they say") (alteration in original).

C. "a load selector means for selectively coupling a load associated with a specific pump voltage to the output of said pumping circuit" (claim 1)

Sonrai's Proposed Construction	Defendants' Proposed Construction
Plain and ordinary meaning; not subject to § 112 ¶ 6. Alternatively, should § 112 ¶ 6 apply: Function: selectively coupling a load associated with a specific pump voltage to the output of said pumping circuit Corresponding structure: Switches 320, 324, 328 and associated signals EN_A, EN_B, EN_C, as shown in figures 3, 5A, 5B, and switches 720, 724, 728 and associated signals EN_A, EN_B, EN_C, as shown in Figure 7, as well as associated descriptions of each in the specification.[2]	This is a means-plus-function limitation. Function: "selectively coupling a load associated with a specific pump voltage to the output of said pumping circuit," which means "choosing a load based on the target pump voltage, such that the load is coupled to the output of the pumping circuit when the target pump voltage is selected" Corresponding structure: the three switches 320, 324, and 328 together with their respective control signals EN_A, EN_B, and EN_C and the controller that generates the signals

This claim phrase designates a specific, known class of structures: load selectors. The intrinsic and extrinsic evidence both confirm that "load selector means for selectively coupling a load . . . to the output . . ." corresponds to a set of switches that are controllable, for example using control signals. Although the term includes the word "means," it is not properly subject to

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[2] Sonrai had previously proposed that the corresponding structure should include switch 716 and control signal Set_load. In the interests of compromise and to reduce the number of disputes before the Court, Sonrai withdraws that part of its proposal.

§ 112 ¶ 6 because it denotes structure and would be recognized by a POSITA as a structural term. But even under § 112 ¶ 6 construction, the phrase corresponds to specific structures disclosed in the specification, *i.e.* switches and transistors.

1.   The term is not subject to § 112 ¶ 6 because it denotes structure to a POSITA.

A claim term is subject to § 112 ¶ 6 construction only when it fails to recite sufficiently definite structure to perform the claimed function. *See, e.g.*, *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) ("[T]he essential inquiry is not merely the presence or absence of the word 'means' but whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure."). For example, even when the term "means" is used, § 112 ¶ 6 does not apply when "the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function." *TecSec, Inc. v. Int'l Bus. Machines Corp.*, 731 F.3d 1336, 1347 (Fed. Cir. 2013).

For example, the Federal Circuit has upheld a construction of the phrase "voltage source means providing a constant or variable magnitude DC voltage between the DC input terminals" as not being subject to § 112 ¶ 6, despite its inclusion of the word "means" and the inclusion of arguably functional language. *Lighting Ballast Control LLC v. Philips Elecs. N. Am. Corp.*, 790 F.3d 1329, 1334, 1338-39 (Fed. Cir. 2015). There, the district court had concluded that the phrase denotes "a class of structures, namely a rectifier, or structure to rectify the AC power line into a DC voltage for the DC input terminals." *Id.* at 1338. This was based on testimony that a POSA would understand "voltage source means" to connote a class of structures including a rectifier or a battery. *Id.* at 1339.

The facts here are similar. As Dr. Brogioli explains, a POSA would recognize that "load

selector" connotes a specific class of structures, *i.e.* a controllable switch or switches for connecting or disconnecting loads. Brogioli Decl. ¶¶ 22. The patent specification confirms this. *See, e.g.*, '241 Patent at 4:48-50 ("The three switches 320, 324, and 328 together with their respective control signals EN_A, EN_B, and EN_C form a load selector means . . . ."); Brogioli Decl. ¶ 23. And there is ample extrinsic evidence that "load selector" means is used by persons of skill in the art to denote a class of structures that switch loads in or out of a circuit using mechanical or solid-state switches. Brogioli Decl. ¶ 24. For example, U.S. Patent No. 4,322,632 discloses a "Remote load selector" that "selectively appl[ies] power to one or more of a group of load devices by toggling a remotely located manually operable switch." Ex. B at Cover (title), 1:5-9; *see also id.* Fig. 3 (showing loads 20 and 21 at top right, with solid-state switches Q3 and Q4 below them for coupling or decoupling to power terminal 24). Likewise, U.S. Patent No. 4,430,576 teaches a different "Remote load selector circuit and method," *i.e.*, "circuits for remotely selecting an electrical load and in particular to circuits in which it is desired to control a plurality of electrical load conditions by means of a single wire pair." Ex. C ('576 Patent), Title, Abstract, and 1:6-9. Like the '632 Patent, the '576 Patent discloses a structure with a plurality of switches, in that context called "relays," connected to a plurality of loads, including fan motor 76 and lamp 62. *Id.* Fig. 1 (showing relays 70a-70f, lamp 62, and fan motor 76 at bottom right), 3:4-7 ("In alternate embodiments, relays 70a-70f may be replaced with any of the various forms of solid state switching devices which are known in the art.").

Defendants agree that the switches and control signals disclosed in the '241 Patent specification are a structure corresponding to the "load selector" term. But their attempt to use § 112 to limit the claim scope to that structure alone is unjustified within the patent context. For example, the patent claims are not limited to any specific number of loads, yet Defendants'

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construction could be misinterpreted to suggest that the load selector must have exactly three switches corresponding to exactly three loads, which contradicts both the claims and the specification. *See, e.g.*, '241 Patent at 4:35-37 ("The number of loads provided to the circuit may vary . . . .").

The dependent claims of the '241 Patent, by limiting the claimed load selector to particular structures, also confirm that "load selector" refers to a definite class of structures. For example, claim 6 narrows claim 1 by requiring that "the load selector means is a plurality of switches" disposed in a particular way, roughly corresponding with the specification disclosure of switches 320, 324, and 328. '241 Patent claim 6; *see id.* Fig. 3 and 4:40-51. Likeise, claim 7 requires that the load selector means include "an NMOS transistor" disposed in a different, specific way. By claim differentiation, these claims confirm that the arrangement of switches 320, 324, and 328 in the speicifcation is one example of a load selector means, but that the claimed load selector means cannot be limited to that example, lest claim 6 become surplusage and claim 7 become an impossibility.

Finally, claim 2 confirms that "load selector means" cannot be a § 112 ¶ 6 term. Claim 2 requires that "the load selector means includes a target output pump selector," and the parties have agreed to a construction of "target output pump selector" as "first comparator 702" and equivalents thereof. *See infra* Section III.D. However, Sonrai and Defendants agree that if "load selector means" were construed under § 112 ¶ 6, the corresponding structure does *not* include "first comparator 702." Thus, interpreting "load selector means" as a § 112 § 6 term would create a logical impossibility, where the "load selector means" must *exclude* first comparator 702, but under claim 2 must further *include* first comparator 702 or an equivalent structure. This inconsistency between Defendants' proposed constructions of "load selector means" with the

agreed construction of "target output pump selector" further confirms that "load selector means" cannot be properly construed under § 112 § 6.

Because the intrinsic and extrinsic evidence confirms that "a load selector means for selectively coupling a load associated with a specific pump voltage to the output of said pumping circuit" denotes a specific class of structures, it is not subject to § 112 ¶ 6 construction.

> **2.   If § 112 ¶ 6 does apply, the construction should include all load selector means disclosed in the specification and equivalents thereof.**

Assuming *arguendo* that § 112 ¶ 6 does apply, the term should be construed to embrace all structures disclosed in the specification as corresponding to the recited function of "selectively coupling a load associated with a specific pump voltage to the output of said pumping circuit," and equivalents thereof. The '241 Patent teaches, in relevant part, two preferred embodiments, but Defendants seek to exclude the second. The parties agree that switches 320, 324, 328 and associated signals EN_A, EN_B, EN_C correspond to this claim term. *See* '241 Patent at 4:40-51 ("The three switches 320, 324, and 328 together with their respective control signals EN_A, EN-B, and EN_C form a load selector means…."). But the specification teaches a second embodiment, shown in Figure 7, comprising switches 716, 720, 724, 728 and associated signals Set_load, EN_A, EN_B, EN_C. '241 Patent at 5:54-6:21 and Fig. 7. Defendants give no explanation why switches 720, 724, and 728, as well as their corresponding signals, should not be part of the construed structure. Indeed, Defendants' opening brief concedes that these loads and switches "selectively attach[]" particular "loads, each associated with a particular voltage level . . . to the output terminal." Op. Br. at 2 (annotating these loads and switches as "Block 1").

Defendants also seek to import extraneous structure in the form of a "controller" that is redundant to the claimed function. In the non-limiting example of Figure 2, the patent

specification clearly explains that it is the switches and their control signals that form the load

selector means, and the "controller (not shown)" is a separate structure. '241 Patent at 4:48-56.

In the specification, the controller receives an instruction and generates a control signal. *Id.* at

4:51-56. The functions of receiving instructions and generating control signals are not recited in

the claims, even under Defendants' improper reinterpretation of the purported function of the

load selector means. Because the "controller" is not necessary to perform the claimed function,

much less clearly linked to it, the controller should not be included in the construction.

3. Defendants' construction of the construction should be rejected.

Again assuming *arguendo* that § 112 ¶ 6 applies, Defendants ask the Court to completely

rewrite the claimed function—which relates to coupling loads to the pumping circuit—and

replace it with a new function that relates to *choosing* loads. Nothing in the claims or intrinsic

record suggests that this new and different function should be substituted, and to do so would be

legal error. *See, e.g.*, *Generation II Orthotics Inc. v. Medical Technology Inc.*, 263 F.3d 1356,

1364–65, (Fed. Cir. 2001) ("When construing the functional statement in a means-plus-function

limitation, we must take great care not to impermissibly limit the function by adopting a function

different from that explicitly recited in the claim."). The purported function of the load selector

means is plain and intelligible on its face and needs no construction. Indeed, Defendants do not

suggest that any part of the claim language is unclear, and thus provide no arguable justification

their proposed rewrite of the claim language to include new and unclaimed functions.

Defendants give no argument why the function should be changed from "coupling" to

"choosing," or linking the load selection means to the new "choosing" function. They cite no

specification support for "choosing," and no specification support linking either the process of

"selecting dynamically the best load for a pump" or the arrangement that "the load is attached to

the output when [its associated] pump voltage is selected" to the load selector means, much less to the language of the claim. Defendants' attempted rewrite of the claim language should be rejected accordingly.

D. "target output pump selector" (claim 2)

Defendants' Proposed Construction
Means-plus-function limitation. Function: "shutting down the variable charge pump circuit when the target output pump voltage (Vcfra) is greater than or equal to a reference voltage (Vref)" Corresponding structure: first comparator 702

Although Sonrai does not agree that Defendants' construction of "target output pump selector" correctly reflects the law of § 112 ¶ 6 or the context of the '241 Patent, in order to reduce the number of disputes before the Court Sonrai withdraws its opposition to Defendants' proposal and consents to a construction of "target output pump selector" as a means-plus-function limitation, with the function "shutting down the variable charge pump circuit when the target output pump voltage (Vcfra) is greater than or equal to a reference voltage (Vref)" and the corresponding structure of first comparator 702 and equivalents thereof.

E. "target output selector means" (claim 3)

Sonrai's Proposed Construction	Defendants' Proposed Construction
"load selector means"	Indefinitely, or alternatively, means-plus-function limitation. If § 112 ¶ 6: Function: "adding a load, whenever a maximum ripple on the target output voltage (Vcfrb) greater than the reference voltage (Vref) then the maximum ripple on the target output selector means adds additional loads untul the Vcfrb voltage is less than or equal to the reference voltage (Vref)" Corresponding structure: second comparator 714, logic circuit 712, resistor 703, resistor 710, and set load switch 716

Defendants contend that "the target output selector means" is indefinite because the precise phrase "target output selector means" was not previously recited in the claims. Op. Br. at 11. Defendants, however, do not address whether the term "the target output selector means" to be reasonably certain to a POSA, which is the correct standard for indefiniteness.

When there is lack of ***explicit*** antecedent basis, "the question is whether, despite the absence of antecedent basis, the scope of a claim would be reasonably certain to 'persons of ordinary skill when read in light of the specification.'" *Lecat's Ventriloscope v. MT Tool & Mfg.*, 351 F. Supp. 3d 1100, 1113 (N.D. Ill. 2018) (citing *Energizer Holdings, Inc. v. Int'l Trade Comm'n*, 435 F.3d 1366, 1370–71 (Fed. Cir. 2006)).

Here, a POSA would be reasonably certain that "the target output selector means" recited in Claim 3 is a reference to the "load selector means" recited in Claim 1. In particular, the "load selector means" couples (i.e., selects) "a load associated with a specific [i.e., target] pump voltage ***to the output of said pumping circuit***." *See* Claim 1. Accordingly, because the "load selector means" selects a load associated with a target pump voltage to the output, a POSA would understand that "load selector means" is also a "target output selector means," and thus constitutes the antecedent basis for "the target output selector means." Brogioli Decl. ¶ 25.

Notably, Defendants provide no theory as to how Sonrai's construction is incorrect, other than the conclusory allegation that "the 'load selector means' ***includes*** the 'target output selector means.'" Op. Br. at 12 (emphasis in original). But Defendants' allegation is based on a clear misreading of claim 3, which recites: "the load selector means further includes ***<u>a maximum ripple on</u> the target output selector means*** for adding a load." Thus, the "load selector means" is not recited as including "the target output selector means." Rather, it is recited as further including a particular feature of the target output selector means / load selector means: "a

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maximum ripple . . . for adding a load." Defendants completely ignore the underlined language, and thus do not provide any credible explanation as to why Sonrai's construction is not accurate.

F.   "the output pump" (claims 6 and 11)

Sonrai's Proposed Construction	Defendants' Proposed Construction
"the output of the pumping circuit"	Indefinite

Defendants seek to invalidate claims 6 and 11 for indefiniteness. "[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). Indefiniteness must be proven "by clear and convincing evidence." *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1377 (Fed. Cir. 2015). Defendants have provided *no evidence*, much less clear and convincing evidence, that a POSITA would be unable to ascertain the scope of the claim with reasonable certainty. Notably, they provide no evidence that a POSITA would fail to recognize that "the output pump" refers to the "output of the pumping circuit" of claim 1

Defendants concede that "the output pump" must refer to the output of either the claimed "charge pump circuit" or the claimed "pumping circuit." *See* Br. at 13. They argue that it is unresolvable which of the two is correct. Not so. Only one of those two circuits has a claimed output: the pumping circuit. This output is expressly named in the independent claim, because the plurality of loads are "selectively coupleable to *an output of the pumping circuit*." 232 Patent claim 1. And both the claim context and specification make clear that the term "output pump" is is used in reference to the output of the pumping circuit. For example, the purpose of the claimed load selector means is to couple "a load" to "the output of said pumping circuit"; in claim 6, the load selector means is narrowed to comprise a plurality of switches, each of which is coupled on one terminal to a "load" and coupled on the other terminal to "the output pump." If the plurality

of switches is to perform its purpose, the "output of said pumping circuit" and "the output pump" must be the same thing. Similarly, claim 11 describes a first resistor network coupled to "the output pump" and to a comparator. This first resistor network appears in the specification and Figure 6, where it is coupled to the output voltage Vout coming from the pump circuit 100 and to a comparator comparator. *Id.* Fig. 6. As in the various other embodiments, pump circuit 100 corresponds to the claimed "pumping circuit." All of these would confirm to a POSITA that there is only one reasonable scope of "the output pump": the output of the pumping circuit.

IV.   DISPUTED TERMS FOR THE '527 PATENT

A.   "portable memory apparatus" (claims 1 and 15)

Sonrai's Proposed Construction	Defendants' Proposed Construction
Plain and ordinary meaning	"an external data storage device for carrying data from one computer system to another computer system"

Defendants improperly seek to limit the '527 Patent claims to (1) include a spurious positional limitation, "external"; (2) rewrite "memory apparatus" to "data storage device; and (3) insert a spurious statement of intended use, "for carrying data from one computer system to another computer system." None of these changes is justified.

First, Defendants do not and cannot cite any support for inserting "external." The word appears nowhere in the claims, specification, or prosecution history. Defendants give no argument for why this limitation should be inserted, and therefore have waived the issue. It is also not clear what Defendants' insertion means. External to what? The claims already imply that the claimed apparatus must be separate from the computer system, because the claimed connector couples the portable memory apparatus to the computer system. There is no reason to insert the word "external."

Second, Defendants substitute "memory apparatus" with "data storage device." Again,

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the new term appears nowhere in the intrinsic record, and again Defendants give no argument in

support. The terms seem to be synonymous; there is no reason to replace one with the other.

Third, Defendants insert a phrase that appears to be an attempt to capure an intended use

of the invention. Again, this phrase appears nowhere in the claims, specification, or prosecution

history. And Defendants are mis-paraphrasing a description of a permissive use, not of the

patented invention, but of the related art: "Portable storage mediums for computer systems **may**

allow a user to carry data from one computer system to another computer system." '527 Patent at

1:11-13. Defendants cannot show, and do not even attempt to argue, that this statement is

lexicography or disclaimer. The sentence, on its face, does not limit or define "portable storage

mediums," but rather describes one use that they "**may allow**" a user to perform, implying that

some portable storage mediums may **not** allow such a use. And the very next sentence of the

specification provides an alternative use: "portable storage mediums may allow a user to back up

critical data from a computer hard drive," which does not involve carrying data from one

computer system to another. *Id.* at 1:13-15.

More basically, Defendants are incorrect to insert an intended use into the preamble and

argue that such a use is limiting. Under established law—cited by Defendants in other sections of

their own opening brief—"a preamble is not limiting where a patentee defines a structurally

complete invention in the claim body and uses the preamble only to state a purpose or intended

use for the invention." *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808

(Fed. Cir. 2002) (internal citation and quotation marks omitted). Here, the preamble does not

actually state a purpose or intended use, but if it did—as Defendants seek by inserting the "for

carrying data" phrase—that portion of the preamble would not be limiting. Under the *Catalina*

framework, it is clear that "for carrying data…," even if the patentee **had** included it in the

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preamble, would not be limiting because it is merely a statement of intended use and provides no

structural limitations for the claimed invention.

The only limitation that Defendants point to as plausibly related to the "carrying data"

purpose is claim 3's provision for backup power when the claimed apparatus is "unplugged from

said computer system." Unplugging a device might be a step in an unclaimed method of

transferring data from one computer system to another, but it could just as easily reflect part of a

backup process. Neither claim 3 nor any other claim requires "another computer system,"

expressly or by implication. In short, "for carrying data from one computer system to another

computer system" is not part of the plain and ordinary meaning of "portable memory apparatus,"

and even if it were, inserting it would improperly limits the claims to an intended use that is not

necessary to give meaning to the claimed invention.

> **B.** **"wherein, when said connector couples said portable memory apparatus to said computer system, said memory controller chip copies data from said non-volatile memory to said volatile memory, and said computer system accesses said data in said volatile memory through said connector" (claim 1)**

Sonrai's Proposed Construction	Defendants' Proposed Construction
Plain and ordinary meaning	Indefinite

Claim 1 is not indefinite, because it is an apparatus claim that sues functional language,

tied to specific structure, to recite the capabilities of the claimed apparatus.

The Federal Circuit has explained that there are two instances under which

system/apparatus claims may be indefinite as also claiming a method:

> **First**, system and apparatus claims are indefinite if they also "claim activities performed by the user." *Mastermine Software, Inc. v. Microsoft Corp.*, 874 F.3d 1307, 1316 (Fed. Cir. 2017). Even if a claim "make[s] reference to user" action, it is indefinite only if it "explicitly claim[s] the user's act," and not if it claims only "the system's capability to receive and respond to user" action. *Id.* **Second**, system and apparatus claims are indefinite if they use "functional language" that is not "specifically tied to structure," but instead "appear[s] in isolation." *Id.*

Acceleration Bay LLC v. Activision Blizzard, Inc., No. CV 16-453-RGA, 2017 WL 6508715, at

*11 (D. Del. Dec. 20, 2017), *aff'd sub nom. Acceleration Bay LLC v. 2K Sports, Inc.*, 15 F.4th 1069 (Fed. Cir. 2021).

Neither of these two scenarios applies. **First**, claim 1 does not recite any activities performed by a user at all, much less explicitly claim the user's action. Rather, it specifies two configurations of the claimed apparatus: (1) that when the connector couples the apparatus to a computer system, the memory controller chip is configured to copy data from non-volatile memory to volatile memory; and (2) that the connector is configured to allow a computer system coupled via the connector to "access[] said data in said volatile memory through said connector." Brogioli Decl. ¶¶ 26-27. In other words, like the claim at issue in *Mastermine*, the claim here simply requires that the system be capable of responding to a coupling of an apparatus by copying data from non-volatile memory to volatile memory, and allowing access to said data through said connector. *Id.*

Second, the claim does not use functional language that appears in isolation. Instead, the functional language is tied to specific structures—the memory controller chip and the connector—that enable the recited functionality. Brogioli Decl. ¶ 28.

Thus, "[b]ecause the claims merely use permissible functional language to describe the capabilities of the claimed system, it is clear that infringement occurs when one makes, uses, offers to sell, or sells the claimed system." *MasterMine Software, Inc. v. Microsoft Corp.*, 874 F.3d 1307, 1316 (Fed. Cir. 2017); *see also Acceleration Bay*, 2017 WL 6508715, at *10-12 (holding that claim language "[a] computer network," "wherein an originating participant sends data to the other participants by sending the data through each of its connections to its neighbor participants" was not indefinite because "the functional language . . . is tied to the structure of the network").

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Defendants' assertions to the contrary fail. First, Defendants allege that a user (not mentioned in the claim language) must "couple" a computer system to the portable memory apparatus. Op. Br. at 18-19. But the claim does not recite a coupling step—rather, it states what the portable memory apparatus must be configured to do "***when*** said connector couples said portable memory apparatus to said computer system." Claim 1. A POSA would understand that the claim is infringed by the apparatus regardless of whether or not the apparatus is, in fact, coupled to a computer system—all that is required is that the apparatus is configured in a way such that it provides the claimed functionality when it is, in fact, coupled to a computer system. Brogioli Decl. ¶ 29. Thus, like in *MasterMine*, the "functional language here does not appear in isolation, but rather, is specifically tied to structure:" the connector that is configured to couple the portable memory system to a computer system. *See Mastermine*, 874 F.3d at 1316.

Second, Defendants allege that the "accesses" portion of the claim language "does not, and indeed cannot, recite the capability of the claimed portable memory apparatus." Op. Br. at 18. However, a POSA would understand that the claim language imposes a functional limitation on "said connector"—specifically, that it allows a coupled computer system to access said data in said non-volatile memory. *See* '527 Patent at Claim 1 ("wherein said computer system accesses said data in said non-volatile memory ***through said connector***"); Brogioli Decl. ¶¶ 26-29. Thus, as in *Mastermine* and *Acceleration Bay*, a POSA would understand the claim language to recite the functional capabilities of the claimed apparatus, rather than to cover an action performed by an unclaimed computer system. Brogioli Decl. ¶¶ 26-29.

      C.   **"when said connector couples said portable memory apparatus to said computer system, said memory controller chip copies data from said non-volatile memory to said volatile memory" (claim 1)**

Sonrai's Proposed Construction	Defendants' Proposed Construction
Plain and ordinary meaning	"at the time the portable memory apparatus is connected to

	the computer system, said memory controller chip copies data from said non-volatile memory to said volatile memory"

Defendants' proposed construction is unnecessary because it does nothing more than replace (1) "when" with the allegedly synonymous "at the time" and (2) "said connector couples said portable memory apparatus" with "the portable memory apparatus is connected." Defendants offer no coherent rationale for these proposed changes (and no rationale at all for the second change). The replacements do nothing to clarify this claim phrase for the fact-finder. *See O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (recognizing that "district courts are not (and should not be) required to construe *every* limitation present in patent's asserted claims" and that "[c]laim construction is not an obligatory exercise in redundancy") (internal quotation marks omitted).

Defendants' proposed construction is also confusing because it is unclear what they intend "at the time," which is simply plucked from a general purpose dictionary (Op. Br. at 19 & n.7), to mean. First, Defendants appear to contend "at the time" means "when the portable memory apparatus is plugged in *(or unplugged from)* the host computer." Op. Br. at 19. If this statement is taken at its face value, this would read the "when" limitation out of the claim, which only requires that the claimed memory controller chip can copy data from the non-volatile to volatile memory when it is coupled or connected to the host computer, not when unplugged from it. *See* '527 Patent at claim 1; Op. Br. at 19 ("copy the data to a volatile memory when the portable RAM drive is coupled to a computer system") (quoting '527 Patent at 2:37-41).

Second, Defendants claim that "[t]he timing of the memory operation is relevant because it prepares the claimed portable memory apparatus for use." *Id.* It is unclear how this premise, even if true, supports Defendants' replacement of "when" with "at the time." To the extent that

Defendants are arguing that "when" here is limited to "at the time of connection," that concept is not captured in their proposed construction. That concept is also inconsistent with the intrinsic record. Nothing in the claim language of specification requires that the "memory operation" (copying data from non-volatile to volatile memory) occur at the precise moment the memory apparatus is connected to the system, rather than at another later time while the memory apparatus remains connected. *See, e.g.*, '527 Patent at 2:37-41.

In sum, the Court should reject Defendants' proposal and hold that this claim phrase has its plain and ordinary meaning.

D.   "data" (all claims)

Sonrai's Proposed Construction	Defendants' Proposed Construction
Plain and ordinary meaning	User data

Defendants do not allege that "user data" is the plain and ordinary meaning of data. Op. Br. at 20-21. Because Defendants do not dispute that the plain and ordinary meaning of "data" is broader than "user data," Defendants' construction must be rejected absent lexicography or disavowal. *See Thorner v. Sony Computer Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

Defendants have not alleged, much less established, either lexicography or disavowal. This failure is fatal to Defendants' proposed construction, and no further inquiry is necessary. *Id.*

Defendants' novel theory that the Federal Circuit's guidance in *Thorner* should be disregarded in this instance is based on Defendants' allegation that "the patent consistently uses data to refer to user data." Op. Br. at 20. In support of this allegation, however, Defendants cite to only *two portions* of the patent, and do not cite any expert testimony that a POSA would understand the specification as being limited exclusively to "user data." *Id.* (citing only to '527 Patent at 1:10-15 and 4:12-27). Thus, Defendants cannot support their broad allegation that the specification is limited to embodiments dealing exclusively with "user data." Furthermore, even

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if Defendants ***could*** make such a showing, it is nevertheless improper to limit claims based on the embodiments in the specification, absent a ***clear indication of intent*** that the claims should be so limited (which Defendants have not alleged here). *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004) ("[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a ***clear indication*** in the intrinsic record that the patentee ***intended*** the claims to be so limited.").

Defendants' two cited cases likewise do not support Defendants' proposed deviation from the plain and ordinary meaning of "data." <u>First</u>, in *Kinik*, the court found prosecution history disclaimer, a fact that Defendants do not allege here. *See Kinik Co. v. Int'l Trade Comm'n.*, 362 F.3d 1359, 1365 (Fed. Cir. 2004) ("During prosecution the same specificity—the excess volume of liquid binder over matrix powder in the preform mixture—was emphasized as a material distinction from the prior art. . . . Claims cannot be construed as encompassing the prior art that was distinguished in the specification and disclaimed during prosecution."); Op. Br. at 20 (citing *Kinik* but failing to allege disclaimer). <u>Second</u>, in *Wi-LAN*, the claim term at issue did not have an undisputed plain meaning different from the court's construction, and the claims themselves logically implied the construction that the court ultimately reached. *See Wi-LAN USA, Inc. v. Apple Inc.*, 830 F.3d 1374, 1383 (Fed. Cir. 2016) ("Thus when the claims describe allocating bandwidth to a specified connection, they imply that the intermediary node distributes this bandwidth among multiple specified connections."); Op. Br. at 20-21 (citing *Wi-LAN*).

Finally, Defendants do not explain how their construction could be reliably applied in a way that would be understandable by a jury. For instance, Defendants contend that "user data" means "data that a user would seek to backup or transfer from a computer system." Op. Br. at 20.

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But this definition depends on the subjective intention of an undefined "user," and would not be helpful to a jury in understanding the scope of the claims. *See U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (explaining that a purpose of claim construction is "to clarify" the scope of disputed terms).

   E.   **"wherein said memory controller chip transfers said non-volatile memory with data written to said volatile memory from said computer system while said portable memory apparatus is coupled to said computer system" (claim 6)**

Sonrai's Proposed Construction	Defendants' Proposed Construction
Plain and ordinary meaning	Indefinite

A POSA would understand that a "write" is a form of "transfer" operation. Brogioli Decl. ¶ 30. Thus, when the claim states that the "memory controller chip transfers said non-volatile memory with data…," a POSA would understand the term to mean that the "memory controller chip writes said non-volatile memory with data." *Id.* Thus, plain and ordinary meaning of this claim term is "wherein said memory controller chip writes said non-volatile memory with data . . . ."). As such, the claim does not recite a physical impossibility as Defendants allege. *See* Op. Br. at. 22.

Furthermore, a POSA would understand that the claim is not open to two "equally plausible" interpretations. Rather, as explained above, a POSA would understand "transfer" to mean "write" in this context, because a write is a form of data transfer.

The other interpretation that Defendants allege is "equally plausible" is entirely unsupported, other than by an excerpt in Sonrai's original infringement contentions did not accurately address the limitation at issue. In particular, the analysis provided in the original infringement contentions in effect addressed the requirement of limitation 1[f], which requires that "when said connector couples said portable memory apparatus to said computer system, said

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memory controller chip copies data from said non-volatile memory to said volatile memory."
This was in error, and Sonrai has since corrected its infringement contentions. Moreover,
Defendants do not explain why this interpretation is "plausible" at all in light of the fact that it
plainly violates the principle of claim differentiation, because claim 1 already recites a
configuration where data is transferred from the non-volatile memory to said volatile memory.
Brogioli Decl. ¶ 31; *Wenger Mfg., Inc. v. Coating Mach. Sys., Inc.*, 239 F.3d 1225, 1233 (Fed.
Cir. 2001) ("Under the doctrine of claim differentiation, each claim in a patent is presumptively
different in scope.").

V.   DISPUTED TERMS FOR THE '232 PATENT

A.   "A method for regenerating a clock signal in a synchronous semiconductor memory, such method comprises the following steps" (preamble of claim 14)

Sonrai's Proposed Construction	Defendants' Proposed Construction
The preamble is limiting	The preamble is not limiting except for "clock signal"

"'[A] claim preamble has the import that the claim as a whole suggests for it.' If the
claim preamble, when read in the context of the entire claim, recites limitations of the claim . . .,
then the claim preamble should be construed as if in the balance of the claim." *Pitney Bowes, Inc.
v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999) (internal citation omitted)).[3]

The preamble to claim 14 recites: "A method for regenerating a clock signal in a
synchronous semiconductor memory, such method comprises the following steps." Defendants
acknowledge that the "clock signal" portion of the preamble must be limiting, because it
provides antecedent basis for "said clock signal" in the body of the claim. Op. Br. at 25. Thus,

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[3] Defendants claim that there is a "presumption" that preambles are not limiting. Op. Br. at 23.
Defendants cite no authority supporting such a "presumption" exists. Rather, when a preamble
recites a limitation of the claim as here, courts have held that such preambles are limiting.

there should be no dispute that the underlined portion of the preamble is limiting: "<u>A method for regenerating a clock signal</u> in a synchronous semiconductor memory."[4]

The remaining, non-underlined portion of the preamble is also limiting because it is necessary to understand what is meant by "said clock signal" in the body of the claims. Specifically, the preamble makes clear that the recited "clock signal" must be a "clock signal in a synchronous semiconductor memory." This is consistent with the specification, which explains that "a **synchronous memory device** . . . regenerate[s] the clock signal on clock lines at different locations of the memory device 1000." '232 Patent at 5:64-67. Defendants point to no disclosures in the specification that the claimed "clock signal" can be used in, for example, a non-memory synchronous system or an asynchronous memory device. Rather, the "Technical Field" section of the specification makes clear "[t]he invention relates to clock signal distribution within a **memory** integrated circuit . . . ." *Id.* at 1:5-8; *see id.* at 1:12-16 ("Background Art" section discussing only synchronous systems); *id.* at claim 10. Accordingly, "in a synchronous semiconductor memory" is a structural limitation necessary to fully understand the scope of the claimed "clock signal" that Defendants concede is limiting. *See* Op. Br. at 24-25. The preamble is thus limiting because it "recites limitations of the claim." *Pitney Bowes*, 182 F.3d at 1305.

And although Defendants allege "in a synchronous semiconductor memory" reflects an "intended purpose" of the device, the language of the preamble itself contradicts that allegation. In particular, the alleged "intended purpose" of the method is "for regenerating a clock signal,"

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[4] Defendants propose that the preamble should be construed to be limiting only with respect to "clock signal," which arguably would exclude the "for regenerating" language. But if the "for regenerating" language were removed from the preamble as Defendants appear to propose, it would nonsensically read "A method . . . a clock signal . . ., such method comprises . . . ." The "for regenerating" language is necessary to explain how the "clock signal" relates to the claimed method.

and "in a synchronous semiconductor memory" provides a structural limitation of the recited

"clock signal." Accordingly, Defendants are incorrect when they assert that "'in synchronous

semiconductor memory' merely states an intended use of the inventive method" (*see* Op. Br. at

25), because this preamble phrase plainly provides a structural requirement on the claimed

"clock signal" itself. For the same reason, that portion of the preamble is "essential to the

invention," contrary to the Defendants' allegation. *See id.*

Thus, this case is unlike the *TomTom, Inc. v. Adolph* case cited by Defendants. *See id.* In

TomTom, the Federal Circuit explained that "language stating a purpose or intended use" has a

"standard pattern of such language: the words 'a method for a purpose or intended use

comprising.'" 790 F.3d 1315, 1324 (Fed. Cir. 2015). Such a pattern is not applicable here; for

example, the preamble does not recite "a method for use in a synchronous memory device," or

otherwise provide language that implies practicing the method within a synchronous memory

device is merely an "intended purpose" of the invention. Rather, as explained above, the fact that

the words "in a synchronous semiconductor memory" directly follow the limiting "clock signal"

indicates those words act as a structural limitation on the clock signal itself.

In sum, because "in a synchronous semiconductor memory" does not convey an intended

purpose of the method, but rather provides a structural limitation to the "clock signal," the

preamble is limiting. *See Pitney Bowes*, 182 F.3d at 1305.

B.   "detecting a rise edge from a low logical level and a fall edge from a high logical level of said clock signal" (claim 14)

Sonrai's Proposed Construction	Defendants' Proposed Construction
Plain and ordinary meaning	"detecting the clock signal passing above a low threshold voltage level set for the low logical level of the clock, and the clock signal passing below a high threshold voltage level set for the high logical level of the clock"

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Defendants' proposal for this term imports new limitations that appear nowhere in the claim. Defendants do not and cannot argue lexicography or disclaimer, nor do they argue that the plain and ordinary meaning of "detecting a rise edge from a low logic level" means "detecting… passing above a low threshold level set for the low logic level," or similarly for the "falling" half of the term. Indeed, Defendants provide no evidence or argument about the meaning of the actual claim term, instead presenting, in effect, a technology tutorial framing the proposed "low threshold" and "high threshold" as the purported point of novelty of the '232 Patent. Notably, Defendants' argument is not corroborated by any expert analysis from Dr. Subramanian; it is pure attorney argument, yet citing no authority in support.

Defendants' argument proceeds in two steps, both faulty: (1) the "key inventive concept" of the '232 Patent is the use of low and high threshold levels; and (2) even though low and high threshold levels appear nowhere in claim 14, they should be added to the claim under the guise of construing the "detecting" phrase.

First, Defendants put far too much weight on the disclosed high and low thresholds; they do not form the key inventive concept as Defendants argue. For example, the threshold aspects of the preferred embodiment are not presented as prominently as the actual key concepts. Notably, the very first sentence of the "summary of the invention" describes that "The object of the invention is achieved by a regeneratie clock repeater that uses an output driver means which ***receives information about the rising edge and falling edge*** to recover a high logical level (V_H) and a low logical level (V_L) of a clock signal. In order to achieve the above objective, the regenerative clock repeater comprises an edge detector that generates ***a pull-up control signal whenever it senses the rising edge and a pull-down control signal whenever it senses the falling edge*** of the clock signal." '232 Patent at 2:44-51. In other words, the specification

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discloses that the key inventive concept is to detect the rising edge separately from detecting the falling edge.

And Defendants are wrong to suggest that the specification distinguishes the invention from the background art solely on the basis of the high and low thresholds. The specification describes several examples of background art, each of which basically consists of a number of inverters in series. *See, e.g.*, *id.* Fig. 2A (inverters 204A), Fig. 2B (inverters 204B), Fig 4 (inverter pairs 402/404). The specification teaches that such inverters only work when the signal level crosses a threshold; and because at any point in the series there is only a *single* inverter, the prior art repeaters necessarily operate with a single threshold. *See id.* at 2:31-33 ("[T]he clock signal… [must] cross the threshold of *the inverter* in order to work."). Due to the structure of the background art of Figures 2 and 4, in particular its use of series inverters that operate based a threshold, it is incapable of separately detecting the rising edge and falling edge, and does not produce pull-up and pull-down control signals. The embodiments of the '232 Patent, on the other hand, possess a distinct edge detector circuit that produces separate pull-up and pull-down control signals, which go to pull-up and pull-down transistors respectively that drive the signal to the high and low logic levels. *See id.* at 3:34-59. The edge detector circuit *can*, and in the preferred embodiments and in some but not all of the other claims of the patent *does*, utilize high and low thresholds to perform its function; but nothing in the patent or in claim 14 inherently requires that the steps of detecting rising and falling edges be performed in that particular way.

Furthermore, as a factual matter nothing about threshold values has been used, in prosecution or elsewhere, to distinguish admitted or actual prior art in order to show the novelty of claim 14. In particular, the patent examiner allowed the claim (then numbered 15), "because the closest prior art of record fails to disclose a method for regenerating a clock signal which

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includes generating a pull-up control signal in response to the detecting of the rise edge of the clock signal[.]" Ex. D (September 26, 2007 Non-Final Rejection) at 4-5.

Second, even if the two thresholds were central to the inventive concept of the patent—*i.e.*, critical to validity—Defendants have not shown any cognizable *legal* reason to import them into claim language that, on its face, contains no such limitations. "[C]laims can only be construed to preserve their validity where the proposed claim construction is "practicable," is based on sound claim construction principles, and ***does not revise or ignore the explicit language of the claims***." *Generation II Orthotics Inc. v. Med. Tech. Inc.*, 263 F.3d 1356, 1365 (Fed. Cir. 2001). Unless a specific "issue of validity properly presented for the record," and without clear and convincing evidence that the patent claim would be invalid unless construed narrowly, it is reversible error to give "a narrow reading [to a claim] to preserve its validity." *Abbott Laboratories v. Baxter Pharm. Prod., Inc.*, 334 F.3d 1274, 1282 (Fed. Cir. 2003).

None of the legal requisites is present here. Defendants' proposal is not based on any underlying construction principle, and manifestly revises the explicit claim language by inserting new limitations that are indisputably not present. And there is no plausible validity issue pending, much less clear and convincing evidence of potential invalidity. Defendants only discuss the background art disclosed in the patent, but inserting high and low thresholds is not necessary to save claim 14 from that art, because the background art obviously and prominently lacks either pull-up or pull-down signals, and likewise lacks pull-up or pull-down transistors, because it uses only a series of inverters. *Compare* '232 Patent at 1:45-2-36, Figs. 2, 4 *with id.* Claim 14.

Defendants' construction is also improper as an attempt to limit claim 14 to the features of the preferred embodiments. It has been settled law for well over a hundred years that although the inventor must disclose a best mode of practicing the invention, "he is not confined to [the

described mode]. If this were not so most patents would be of little worth." *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U.S. 405, 418 (1908); *see also, e.g.*, *Linear Tech. Corp. v. Int'l Trade Comm'n*, 566 F.3d 1049, 1058 (Fed. Cir. 2009) ("We have repeatedly held that, even in situations when only one embodiment is disclosed, the claims generally should not be narrowed to cover only the disclosed embodiments or examples in the specification."). Defendants did not, and could not have, presented any argument why the claim should be narrowed to cover only the disclosed embodiments.

VI.   CONCLUSION

For the reasons above, Sonrai respectfully requests that the Court adopt Sonrai's proposed constructions and reject Defendants' constructions as inconsistent with the record.

Dated: January 13, 2022   Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that the counsel of record who are deemed to have consented to electronic service are being served on January 13, 2022 with a copy of this document via the Court's ECF system.

/s/ James A. Milkey
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